

**Vitellaro, Chandra**

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**From:** Fairchild, Susan  
**Sent:** Monday, February 08, 2016 4:27 AM  
**To:** armitage.sarah@deq.state.or.us  
**Cc:** McClintock, Katie  
**Subject:** paper on chromium emissions  
**Attachments:** Mechanisms of chromium emissions from Wool Fiberglass Furnaces Final.pdf

Sarah, Katie asked that I send this paper to you also. It explains the mechanism of chromium emissions from glass furnaces. The focus is on wool fiberglass, but other glass furnaces would have similar mechanisms.

Because the mineral components of the glass 'recipe' can influence the rate of furnace wear due to glass chemistry and interaction with the refractory minerals, the chromium emission rate at Spectrum should be expected to differ from wool fiberglass furnaces (and even from other art glass furnaces, depending on the amount of cullet used and the differences in glass recipes).

The references are also really useful for further understanding of the different variables that may be involved.

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